

Application No.: 09/849,460

Docket No.: JCLA6212

AmendmentIn The Claims:

1. (Currently amended) A process for forming a conducting structure layer that can reduce metal etching residues, comprising steps as follows:

- a substrate is provided;  
a barrier layer is formed on the substrate;  
a pre in-situ metal layer<sup>48</sup> is formed on the barrier layer;  
a first metal layer is formed immediately after the pre in-situ metal layer is formed and in the same vacuum surrounding as the one in which the pre in-situ metal layer is formed;  
an anti-reflective layer is formed on the first metal layer; and  
a photolithography and etching step is performed to define the barrier layer, the pre in-situ metal layer and the first metal layer and the anti-reflective layer.

Claim 2. (Original) The method of claim 1, wherein the pre in-situ metal layer includes one of the following materials: titanium, titanium nitride, or titanium tungsten.

Claim 3. (Original) The method of claim 1, wherein the first metal layer includes one of the following materials: aluminum, copper, tungsten, an alloy of aluminum silicon, an alloy of aluminum, silicon and copper, an alloy of aluminum and copper, an aluminum alloy, an copper alloy, or an tungsten alloy.

Claim 4. (Original) The method of claim 1, wherein a step for processing the barrier layer is included.

Claim 5. (Original) The method of claim 4, wherein the step for processing the barrier layer includes either high temperature tempering treatment or cooling in the air for a period of time.

Application No.: 09/849,460

Docket No.: JCLA6212

Claim 6. (Original) The method of claim 4, wherein the barrier layer includes at least a second metal layer.

Claim 7. (Original) The method of claim 1, wherein the barrier layer includes one of the following materials: titanium, titanium nitride or titanium tungsten.

B  
end  
Claim 8. (Original) The method of claim 1, wherein the substrate includes a dielectric layer and an opening defined at the dielectric layer.

Claim 9. (Currently cancelled.)

Claim 10. (Currently amended) The method of claim 19, wherein the anti-reflective layer includes titanium nitride in the step of forming the anti-reflective layer.

Claim 11. (Previously cancelled.)

Claims 12-15. (Currently cancelled.)

Claim 16-26. (Previously cancelled.)

---